IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: S. Weitbruch, et al.

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For: METHOD FOR PROCESSING VIDEO
                  PICTURES AND APPARATUS FOR
                  PROCESSING VIDEO PICTURES

PRELIMINARY AMENDMENT

Hon. Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

IN THE CLAIMS:

    Cancel Claims 1-9 and substitute therefore
Claims 10-19.

    10.   (Newly Added) Method for processing
video pictures, especially for false contour
effect compensation, the video picture consisting
of pixels, the pixels being digitally coded with
at least one digital code word, wherein to each
bit of a digital code word a certain duration is
assigned, hereinafter called sub-field, during
which the whole pixel or a component of the pixel
is activated, wherein a motion vector is
calculated for a pixel, and the motion vector is
used for re-coding the sub-field code word of the
pixel, wherein the motion vector calculation is
made in a manner that the resulting motion vector

determines for a current pixel from which location in a previous video picture the current pixel comes from.

11. (Newly Added) Method according to claim 10, wherein the re-coding step includes a step of calculating drag coordinates for the sub-field code word bits of the current pixel based on the calculated motion vector, and wherein the drag coordinates are used for selecting a pixel in the video picture and using the corresponding bit of the sub-field code word of the selected pixel to determine the corresponding bit of the new sub-field code word of the current pixel.

12. (Newly Added) Method according to claim 11, wherein the calculation of the drag coordinates is made according to the formula:

$$\Delta x_n = -\frac{Vx \cdot G(n)}{Dur(F)} \quad \text{and} \quad \Delta y_n = -\frac{Vy \cdot G(n)}{Dur(F)}$$

wherein Δx_n represents the relative position in x-direction of a pixel from which the sub-field code word bit needs to be taken for the current pixel;

Δy_n represents the relative position in y-direction of a pixel from which the sub-field code word bit needs to be taken for the current pixel;

V_x is the x-component of the motion vector and V_y is the y-component of the motion vector;

G(n) represents the center of gravity position of the sub-field in the frame period;

n is the current sub-field number and

Dur(F) is the duration of the frame.

13. (Newly Added) Method according to claim 10, characterized in that to a pixel three sub-field code words are assigned, one for each colour component.

14. (Newly Added) Method according to claim 10 , characterized in that a sub-field is a sub-period of a video frame period consisting of an addressing period, a sustaining period and an erasing period.

15. (Newly Added) Method according to claim 12, characterized in that the center of gravity (CG) of each sub-field (SF) in a frame period is calculated according to the formula:

$$G(n) = S(n) + Dur(n)/2$$

wherein G(n) represents the center of gravity location in the frame period;

n is the current sub-field number,

S(n) represents the start position of the current sub-field;

and Dur(n) represents the duration of the current sub-field.

16. (Newly Added) Apparatus for carrying out the method of claim 10, the video pictures

consisting of pixels, the pixels being digitally
coded with at least one digital code word,
wherein to each bit of a digital code word a
certain duration is assigned, hereinafter called
sub-field, during which the whole pixel or a
component of the pixel is activated, wherein, the
apparatus comprises
- a motion estimator for calculating motion
vectors for the pixels of a current video picture
by comparing a current video picture with at
least one previous video picture, the resulting
motion vector being defined to determine for a
current pixel from which location in a previous
video picture the current pixel comes from.

17. (Newly Added)   Apparatus according to
claim 16, further comprising a sub-field re-
coding unit in which drag coordinates for the
sub-field code word bits of the current pixel
based on the calculated motion vector are
calculated, and a selection unit, in which the
drag coordinates are used for selecting a pixel
in a video picture and using the corresponding
bit of the sub-field code word of the selected
pixel to determine the corresponding bit of the
new sub-field code word of the current pixel.

18. (Newly Added)   Apparatus according to
claim 16, the apparatus comprising a matrix
display, especially plasma, LCOS (Liquid Crystal
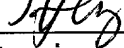On Silicon) or DMD display.

REMARKS

Claims 1-9 have been cancelled and Claims 10-19 have been added to conform with U.S. patent prosecution practice. No new matter has been introduced.

Allowance of Claims 10-19 is, respectfully, requested.

Respectfully submitted,

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By: _____

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